I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV323527116US, in an envelope addressed to: MS Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450, on the date shown below.

(Joanne Ryan)

Dated: 2/17/04 Signature: Opasse

Docket No.: MDSP-P04-180

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Shaughnessy et al.

Application No.: Not Yet Assigned

Confirmation No.:

Filed: February 17, 2004

Art Unit: N/A

For:

OSTEOPOROSIS TREATMENT

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Patent Application Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

Copies of the references on the PTO/SB/08 are not provided because they were previously cited by or submitted to the Office in a prior application number 09/715838, filed November 17, 2000 and relied upon in this application for an earlier filing date under 35 U.S.C. 120.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this

Application No.: Not Yet Assigned Docket No.: MDSP-P04-180

Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-1945, under Order No. MDSP-P04-180.

Dated: February 17, 2004

Respectfully submitted,

By___ Yu Lu

Registration No.: 50,306

ROPES & GRAY LLP
One International Place

Boston, Massachusetts 02110-2624

(617) 951-7000

(617) 951-7050 (Fax)

Attorneys/Agents For Applicant

Sheet Page 1 of 2 Form PTO-1449 Docket Number (Optional) Application Number INFORMATION DISCLOSURE CITATION MDSP-P03-180 09/715,838 IN AN APPLICATION Applicant Shaughnessy et al. (Use several sheets if necessary) Filing Date Group Art Unit 17-Nov-2000 1614 U.S. PATENT DOCUMENTS **EXAMINER** FILING DATE INITIAL DOCUMENT NUMBER DATE NAME **CLASS SUBCLASS** IF APPROPRIATE AA 07-Feb-1986 4683195 28-Jul-1987 Mullis et al. 435 6 AB 21-May-1990 5215895 01-Jun-1993 Bennett 435 69.52 AC 14-Aug-1991 5270181 14-Dec-1993 McCoy 435 69.7 AD 28-Jul-1992 5292646 08-Mar-1994 McCoy 435 69 7 FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY Translation CLASS **SUBCLASS** NO ΑE 2177837 07-Jun-1996 CA A61K 38/20 AF WO96/18648 20-Jun-1996 **PCT** C07K 14/54 AG WO96/19574 27-Jun-1996 PCT C12N 15/12 AH WO98/15283 16-Apr-1998 PCT A61K 38/17 WO99/59608 Αľ 25-Nov-1999 PCT A61K 38/00 OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages Etc.) Austin et al., "Site-directed mutagenesis of alanine-382 of human antithrombin III", FEBS Letters 280 (2): 254-258 (1991). ΑJ Davis et al., "LIFR\$\textit{g}\$ and gp130 as Heterodimerizing Signal Transducers of the Tripartite CNTF Receptor", Science 260: 1805-1808 (1993). ΑK Ershier et al., "Immunologic Aspects of Osteoporosis", Devel. Compar. Immunol. 21 (6): 487-499 (1997). AL Girasole et al., "Interleukin-11: A New Cytokine Critical for Osteoclast Developments", J. Clin. Invest. 93: 1516-1524 (1994). ΑM Ishimi et al., "IL-6 is Produced by Osteoblasts and Indices Bone Resorption", J. Immunol. 145 (10): 3297-3303 (1990). ΑN Karow et al., "Mediation of interleukin-11-dependent biological responses by a soluble form of the interleukin-11 receptor", Biochem J. 318: 489-495 (1996). AO Kim et al., "Involvement of Different Second Messengers in Pararthyroid Hormone- and Interleukin-1- Induced Interleukin-6 and Interleukin-11 Production in Human Marrow Stromal cells", J. Bone Miner. Res. 12 (6): 896-902 (1997). ΑP Leahy et al., "A Method for Attachment of Peptides to a Solid Surface with Enhanced Immunoreactivity", Biotechniques 13 (5): 738-743 (1992).AQ Michalon et al., "Enzyme Coupling Method on Calibrated Nylon Spheres: Application to the Selective Trypsinization of Histones in Chromatin", Biochem. Biophys. Res. Comm. 167 (1): 9-15 (1990). AR Muir et al., "A Histomorphometric Comparison of the Effects of Heparin and Low-Molecular-Weight Heparin on Cancerous Bones in Rats", Blood 89 (9): 3236-3242 (1997). AS 8598248.1

Form PTO-1449			Deduct I (Oct. B	Sheet Page 2 of 2					
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)			Docket Number (Optional) MDSP-P03-180	Application Number 09/715.838					
			Applicant Shaughnessy et al.						
			Filing Date 17-Nov-2000	Group Art Unit 1614					
<u> </u>		Muir et al., "Histomorphometric	Analysis of the Effects of Standard Heparin	on Trabecular Bone in Vivo", Blood 88 (4): 1314-1320 (1996).					
	AT								
		Musashi et al., "Direct and synerg	rgistic effects if interleukin 11 on murine hemopoiesis in culture", PNAS U 88: 765-769 (1991).						
	AU								
	AV	Nandurkar et al., "Adult Mice With Targeted Mutation of the Interleukin-11 Receptor (IL11Ra) Display Normal Hematopoiesis", Blood 90 (6): 2148-2159 (1997).							
	Poli et al., "Interleukin-6 deficient mice are protected from bone loss caused by estrogen depletion", EMBO J. 13 (5): 1189								
	AW								
	AX	Romas et al., "The Role of gp130 Distribution of Its Receptor in Bo	l-mediated Signals in Osteoclast Development one Marrow Cultures", J. Exp. Med. 183: 25	ent: Regulation of Interleukin 11 Production by Osteoblasts and 81-2591 (1996).					
	AY	y interleukin 6", PNAS 90: 11924-11928 (1993).							
	Teramura et al., "Interleukin-11 Enhances Human Megakaryocytopoiesis In Vitro", Blood 79 (2): 327-331 (1992).								
	BA	Van Leuven et al., "Molecular Cl Chromosome 9p13", Genomics 3	oning and Characterization of the Human Interleukin-11 Receptor α-Chain Gene, IL11RA, Located on 1 (1): 65-70 (1996).						
······································									
	Vlasselaer et al., "Leukemia Inhibitory Factor (LIF): A Growth Factor with Pleiotropic Effects on Bone Biology", Progress in Growth Research 4: 337-353 (1992).								
	BC	Whitehorn et al., "A Generic Met 1215-1219 (1995).	thod for Expression and Use of 'Tagged' Soluble Versions of Cell Surface Receptors", Biotechnology 13 (11):						
	BD	Yin et al., "Involvement of IL-6 S	Signal Transducer gp130 in IL-11-Mediated	Signal Transduction", J. Immunol. 151 (5): 2555-2561 (1993).					
EXAMINER			DATE	CONSIDERED					
EXAMINER conformance	: Initial	if citation considered, whether considered. Include conv. of the	or not citation is in conformance with I is form with next communication to the	MPEP § 609; Draw line through citation if not in					
		Total Copy of the	.5 rount with float communication to the	c applicant.					

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERERCE

)								
i	<u> </u>	1	<u> </u>		Reexar		ant(s)/Patent Under mination GHNESSY ET AL.				
		Notice of Reference	s Cited	Examiner	31		551 ET AL.				
					Vormoses Dh D	Art Unit	Page 1 of 1				
					. Kemmerer, Ph.D.	1646					
Γ.	Γ	Document Number	Date	U.S. PATENT DOCUM	MENTS						
*		Country Code-Number-Kind Code MM-YYYY			Name		Classification				
	Α	US-									
	В	US-									
	С	US-									
	D	US-									
	E	US-						_			
	F	US-									
	G	US-									
	Н	US-									
	-	US-									
	J	US-									
	К	US-						_			
	L	US-									
	М	US-									
			FC	REIGN PATENT DOC	UMENTS	·		_			
*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name		Classification				
	N										
	0		·								
-	Р										
	Q										
	R										
	S										
	Т										
				NON-PATENT DOCUM							
*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)									
	U	Ngo et al., 1994, The Protein Folding Problem and ertiary Structure Prediction, Merz et al., eds., Birkhauser, Boston, pp. 491-495.									
	>	Wells, 1990, Biochemistry 29:8509-8517.									
	w										
	X										

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.